

1. (Currently Amended) An apparatus for computing a preferred set of prices for a plurality of products, comprising:

an econometric engine for modeling internal sales as a function of price to create an internal sales model, wherein said econometric engine clusters said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products;

a financial model engine for modeling costs to create a cost model which includes an activity-based costing module configured to receive variable costs and fixed costs, wherein said cost model determines a total cost for each product in a given demand group in a given store for a given time period by computing a cost for each selected costing activity including labor, stocking time, transportation, receiving, inventory, bagging, checkout and invoicing; and

an optimization engine coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine, wherein the optimization engine generates the preferred set of prices.

2. (Currently Amended) The apparatus, as recited in claim 1, wherein the optimization engine comprises:

a strategy implementation module ~~business-rule tool~~, which stores a plurality of price limiting strategic considerations ~~rule-parameters~~; and

a price calculator connected to the strategy implementation module, ~~business-rule tool~~, the financial model engine, and the econometric engine, wherein the price calculator determines the preferred set of prices based on price limiting strategic considerations ~~rule-parameters~~, the sales model, and the cost model, further wherein said price limiting strategic considerations ~~rule-parameters~~ constrain the preferred set of prices to fall within limits conforming to business strategy.

3. (Original) The apparatus, as recited in claim 2, further comprising a support tool connected to the optimization engine wherein the support tool receives the preferred set of prices

from the optimization engine and provides a user interface to a client, wherein the user interface provides the preferred set of prices to the client.

4. (Currently Amended) A method for determining a preferred set of prices for a plurality of products, comprising:

creating an internal sales model ,wherein said internal sales model clusters said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products;

creating a cost model which includes activity-based costing, the activity-based costing including fixed costs and variable costs, wherein said cost model determines a total cost for each product in a given demand group in a given store for a given time period by computing a cost for each selected costing activity including labor, stocking time, transportation, receiving, inventory, bagging, checkout and invoicing; and

generating the preferred set of prices for the plurality of products based on the internal sales model and cost model.

5. (Currently Amended) The method, as recited in claim 4, wherein the creating of the internal sales model comprises:

creating a plurality of ~~demand groups~~ discrete sets of related products whereby each said set is made up of highly substitutable related products, further wherein each ~~demand group~~ discrete sets of related products is a set of at least one product and wherein at least one of the ~~demand group~~ discrete sets of related products is a set of at least two products;

creating an internal sales model for each ~~demand group~~ discrete sets of related products for modeling sales of each ~~demand group~~ discrete sets of related products for a given time period in a given store; and

creating a ~~market share~~ model for determining the fraction of internal sales of each discrete set of related products made up by each product ~~in each demand group for modeling the fraction of each demand group sales made up by each product~~ for said time period.

6. (Currently Amended) An apparatus for computing a preferred set of prices for a plurality of products comprising:

an econometric engine for modeling internal sales as a function of price to create an internal sales model based on Bayesian modeling, wherein data from at least two stores is combined to obtain a Bayesian estimation of the internal sales model, further wherein said econometric engine clusters said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products;

a financial model engine for modeling costs to create a cost model which includes an activity-based costing module configured to receive variable costs and fixed costs, wherein said cost model determines a total cost for each product in a given demand group in a given store for a given time period by computing a cost for each selected costing activity including labor, stocking time, transportation, receiving, inventory, bagging, checkout and invoicing; and

an optimization engine coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine, wherein the optimization engine generates the preferred set of prices.

7. (Original) The apparatus of claim 6 wherein the Bayesian model is a Bayesian Shrinkage model.

8. (Original) The apparatus of claim 7 where the Bayesian Shrinkage model is a multi-stage model.

9. (Original) The apparatus of claim 6 wherein the econometric engine provides demand coefficients to the optimization engine, the demand coefficients used for estimating demand given market conditions.

10. (Original) The apparatus of claim 8 wherein the market conditions include a price point.

11. (Currently Amended) The apparatus of claim 6 wherein the econometric engine divides the plurality of products into a plurality of ~~demand groups~~ discrete sets of related products whereby each said set is made up of highly substitutable related products, further, where at least one of said ~~demand groups~~ has at least two of said products in said at least one demand

**group discrete sets of related products is a set of at least one product and wherein at least one of the discrete sets of related products is a set of at least two products.**

12. (Currently Amended) The apparatus of claim 11 wherein the econometric engine generates a ~~market share~~ model for **determining the fraction of internal sales of each discrete set of related products made up by each product.** ~~said products in said demand groups.~~

13. (Currently Amended) The apparatus of claim 12, wherein the econometric engine determines an **internal** sales model for each ~~demand group~~ **discrete set of related products** so that the optimization engine is able to calculate demand for said products by multiplying the **fraction of sales of each discrete set of related products made up by each said product** ~~market share model for said products~~ with the **internal** sales model for the ~~demand group~~ **discrete set of related products** to which the product belongs.

14. (New) The apparatus of claim 1 wherein said econometric engine further comprises an imputed variable generator for providing imputed econometric variables to the optimization engine, the imputed econometric variables used for estimating missing or incomplete product parameters.

15. (New) The method of claim 4 further comprising:  
receiving raw econometric data;  
detecting product parameter inconsistencies in the raw econometric data;  
correcting the detected inconsistencies in the raw econometric data to generate a cleansed initial dataset; and  
generating imputed econometric variables using the cleansed initial dataset.

16. (New) The apparatus of claim 6 wherein said econometric engine further comprises an imputed variable generator for providing imputed econometric variables to the optimization engine, the imputed econometric variables used for estimating missing or incomplete product parameters.